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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PHAM, THOMAS K

ART UNIT PAPER NUMBER

2121

DATE MAILED: 03/24/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/479,031

Applicant(s)

GRANT ET AL.

Examiner

Thomas K Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 129, 133-146 and 150-171 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 129, 133-146 and 150-171 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Amendment

1. This action is in response to request for continued examination filed on 2/2/2001
2. Claims 129, 133-146 and 150-171 are pending.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 129, 133-137, 141-146, 150-156 and 158-171 rejected under 35 U.S.C. 103(a) as being unpatentable over Sunshine et al. U.S. Patent no. 6,085,576 (hereinafter Sunshine) in view of Tarrant European Patent no. 450,829.

Regarding claims 129, 146, 158 and 171

Sunshine teaches a handheld apparatus including: a hardware interface to be connected to a handheld computer device and to at least one attachable sensor (col. 2 lines 31-37, "The e-nose device can be ... 50 sensors in the array"), the at least one attachable sensor to perform data acquisition when attached to the hardware interface (col. 12 lines 42-46, "The digitized samples ... select lines of the MUX"); a data module to interact with at least one sensor and with the handheld computer device (col. 15 lines 10-15, "The on-board memory ... occupies three bytes of memory"); a display module to display data collection results on a display of the handheld computer device (col. 5 lines 64-66, "A display 120a ... access by the operator") but does not teach a sensor to be programmable by the computer. However, Tarrant teaches an intelligent

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sensor that can be program by a computer that allows the sensor to perform a number of different functions (col. 6 lines 8-17, “Digitized signal processor 28 ... supervisor monitor/control computer 44”). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the intelligent sensor of Tarrant with the handheld apparatus of Sunshine because it would provide for allowing user to reprogram the sensor for use in a specific application.

Regarding claim 133

Sunshine teaches a memory module to store data supplied by the at least one sensor (col. 8 lines 32-36, “Operation of e-nose device ... other configuration information”).

Regarding claims 134, 153 and 163

Sunshine teaches the data module further configured to calibrate the at least one sensor (col. 15 lines 36-38, “a Target mode, in which ... to samples of known identity”).

Regarding claim 136

Sunshine teaches a power source (col. 21 lines 32-40, “The e-nose device ... of the power pack”).

Regarding claim 137

Sunshine teaches at least one sensor but do not teach a sensor for assessing chemical composition of a liquid sample (col. 5 lines 53, “a sample includes chemical analytes, odors, vapors and others”).

Regarding claims 135 and 156

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Sunshine teaches the apparatus of claim 129 further comprising an alert module to notify a user of the apparatus of an event based on data provided by the at least one sensor (col. 21 lines 10-15, “Graphics and icons assist ... are quick, simple, and reliable”).

Regarding claim 141

Sunshine teaches at least one sensor but do not teach a sensor for detecting temperature (col. 14 lines 59-63, “I/Os that can be controlled ... a humidity probe”).

Regarding claims 142 and 150

Sunshine teaches the at least one sensor is an analog sensor (col. 10 lines 27-33, “Various sensors suitable for ... infrared sensors”).

Regarding claims 143 and 151

Sunshine teaches the at least one sensor is a digital sensor (col. 14 lines 59-63, “I/Os that can be controlled ... a humidity probe”).

Regarding claims 144 and 152

Sunshine teaches the data module includes an analog-to-digital converter (fig. 12a, element 1230).

Regarding claim 145

Sunshine teaches the data module processes the data prior to display of the data collection results on the display (col. 2 lines 64-67, “The analyzer is configured ... analytes within the test sample”).

Regarding claims 154 and 159

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Sunshine teaches the adjustable module further generates graphical representation of the data received from the sensor (col. 21 lines 10-15, “Graphics and icons assist users ... quick, simple and reliable”).

Regarding claims 155 and 164

Sunshine teaches the adjustable module further directs the sensor to change data collection features of the sensor based on at least one user instruction (col. 18 lines 1-6, “available in the main menu: ... a set of available methods”).

Regarding claim 160

Sunshine teaches the processing the data includes converting the data into digital form (col. 13 lines 27-30, “A status signal from ... channel for digitization”).

Regarding claim 161

Sunshine teaches the processing the data includes determining whether an event occurs (col. 16 lines 18-23, “the processor processes any ... the target operating mode”).

Regarding claim 162

Sunshine teaches generating alert signal to display at the handheld computer device if the event occurs (col. 16 lines 36-43, “Otherwise, if the selected ... is the default mode”).

Regarding claim 165

Tarrant teaches changing options of the sensor based on at least one instruction of the user (col. 2 lines 50-54, “The user can later program ... overall system efficiency”).

Regarding claim 166

Sunshine teaches the options include sampling rates (col. 15 lines 20-22, “The ADC sampling rate ... to the host computer”).

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Regarding claim 167

Sunshine teaches the options include a scale of measurement (col. 19 lines 6-14, “The various modules ... may be plugged in”).

Regarding claim 168

Sunshine is silent on the options include measurement units. However, it is obvious to one of ordinary skill in the art at the time the invention was made to include a measurement units for any type of measurement taken as test sample for analyzing in order to achieve an accurate result based on the amount of samples taken.

Regarding claim 169

Sunshine teaches changing display of the data based on user actions (col. 5 lines 64-66, “A display 120a and several ... by the operator”).

Regarding claim 170

Sunshine teaches the user actions are provided via a set of controls of the handheld computer device (col. 5 lines 48-58, “e-nose device 100 is ... from an industrial valve assembly”).

5. Claims 138-140 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sunshine in view Tarrant and further in view of Amano et al. U.S. Patent No. 5,941,837 (hereinafter Amano).

Regarding claim 138

Sunshine and Tarrant teach a handheld apparatus with at least one sensor but do not teach a sensor for monitoring athletic activity. However, Amano teaches a sensor for monitoring athletic activity (col. 20 lines 36-40). It would have been obvious to one of ordinary skill in the art at the

time the invention was made to combine the activity monitoring sensor of Amano with the apparatus of Sunshine and Tarrant because it would provide for measuring the user's pulse rate and the exercise amount in order to provide guidance to the athlete's performance.

Regarding claim 139

Sunshine and Tarrant teach a handheld apparatus with at least one sensor but do not teach a sensor for detecting acceleration changes. However, Amano teaches the apparatus wherein the at least one sensor is a sensor for detecting acceleration changes (col. 16 line 28). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the acceleration changes sensor of Amano with the apparatus of Sunshine and Tarrant because it would provide for determining the body moment in accordance with the measurement of the pulse rate sensor in order to provide guidance to the athlete's performance.

Regarding claim 140

Sunshine and Tarrant teach a handheld apparatus with at least one sensor but do not teach a sensor for detecting light. However, Amano teaches a sensor for detecting light (col. 16 lines 19-21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the light detector of Amano with the apparatus of Sunshine and Tarrant because it would provide for measuring the user's pulse rate from the light emitting diode in order to provide guidance to the athlete's performance.

6. Claim 157 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sunshine in view of Tarrant and further in view of Amano and further in view of McNabb U.S. Patent no.

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5,927,603 and further in view of Durbin et al. U.S. Patent No. 6,039,258 (hereinafter Durbin) and further in view of King et al U.S. Patent No. 4,565,999 (hereinafter King).

Regarding claim 157

Sunshine and Tarrant teach a handheld apparatus with at least one sensor selected from a group including a biological sensor, a weight sensor, a temperature sensor, an infrared sensor but do not teach an acceleration sensor, a radiation sensor, a bar code sensor, an inventory tag sensor, a motion sensor, a pH level sensor, a heart monitor sensor. However, Amano teaches an acceleration sensor (col. 16 line 28) and a heart monitor sensor (col. 20 lines 36-40).

Furthermore, McNabb teaches a chemical sensor and a pH level sensor (col. 12 lines 58-63).

Furthermore, Durbin teaches a bar code sensor, an inventory tag sensor (col. 4 lines 18-23) and a motion sensor (col. 7 lines 60-66). In addition, King teaches the apparatus including a radiation sensor (col. 8 lines 10-14). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the sensors of Amano with the apparatus of Sunshine and Tarrant because it would provide for determining athlete activities in accordance with the measurement of the heath's monitoring sensors in order to provide guidance to the athlete's performance. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the sensors of McNabb with the apparatus of Sunshine and Tarrant because it would provide for detecting any chemical composition such as moisture content within soil for analysis in order to improve the soil condition. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the sensors of Durbin with the apparatus of Sunshine and Tarrant because it would provide for data collecting operation that activated upon triggering a motion sensors. Furthermore, it would have

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been obvious to one of ordinary skill in the art at the time the invention was made to combine the sensors of King with the apparatus of Sunshine and Tarrant because it would provide for detecting radiation patterns in order to recognize the direction of an object in translational motions.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Thomas Pham*; whose telephone number is (703) 305-7587 and fax number is (703) 746-8874, Monday-Thursday and every other Friday from 7:30AM- 5:00PM EST or contact Supervisor *Mr. Anil Khatri* at (703) 305-0282.

Any response to this office action should be mailed to: **Director of Patents and Trademarks Washington, D.C. 20231**, or **Hand-delivered** responses should be brought to **Crystal Park II, 2121 Crystal Drive Arlington, Virginia, (Receptionist located on the 4th floor)**, or fax to the **official fax number (703) 872- 9306**.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Thomas Pham
Patent Examiner

TP

March 17, 2004

Ramesh Patel
RAMESH PATEL
PRIMARY EXAMINER 3/18/04
For Anil Khatri